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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/065,275	09/30/2002	Matthew G. Wheeler	13494.0002.N	5686

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LOCKE LIDDELL & SAPP LLP
ATTN. DOCKETING
600 TRAVIS #3400
HOUSTON, TX 77002

EXAMINER

FREAY, CHARLES GRANT

ART UNIT PAPER NUMBER

3746

DATE MAILED: 04/18/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/065,275

Applicant(s)

WHEELER, MATTHEW G.

Examiner

Charles G. Freay

Art Unit

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-27 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-27 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. ____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____. |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>1/20032</u> . | 6) <input type="checkbox"/> Other: ____. |

DETAILED ACTION

Drawings

The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the filter, mixer and ultrasonic mixer (claims 16-18) must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Specification

The disclosure is objected to because of the following informalities: the acronyms CMP and PFA should be fully described at their first use in the specification.

Appropriate correction is required.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-6, 10, 11, 20, 21, and 24 are rejected under 35 U.S.C. 102(b) as being anticipated by Bailey et al (USPN 4,950,134).

Bailey et al discloses a flow control system for a CMP system (note the “Background” section of the disclosure). Having a substantially rigid vessel (104, 109), a tube (182) forms a common inlet and outlet, there is a process fluid reservoir (110), and a moveable member (111) in the form of a diaphragm. The moveable member is driven by a plunger (107) which is connected through a piston (120) to a stepper motor (102). Additionally Bailey et al disclose a filter (123) in the outlet line.

Claims 1-6, 10, 11, 20, 21, and 24 are rejected under 35 U.S.C. 102(b) as being anticipated by Benson (USPN 4,488,853).

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Benson discloses a flow control system having a substantially rigid vessel (55 or 55a and 55b in Fig. 10), an inlet and an outlet with respective check valves (67,68), there is a process fluid reservoir (60), and a moveable member (62 which is in the form of a bag, the examiner notes that any element can be disposed of so the bag is inherently disposable). The moveable member is driven by a plunger (57, 57b) which is connected to a piston (57b). The plunger is driven by an oscillating pressure source connected at (61).

Claims 1-3, 7, 10, 11 and 20 are rejected under 35 U.S.C. 102(b) as being anticipated by Snodgrass et al (USPN 6,109,881).

Snodgrass et al discloses a flow control system having a rigid vessel (320 or shown near 13 in Fig. 4), having separate inlets and outlets, a fluid pump (105) is connected to the working fluid reservoir (148) to drive a diaphragm through a tube or pipe (143). The pump is driven by a stepper motor (70).

Claims 20-23 are rejected under 35 U.S.C. 102(b) as being anticipated by Vanell (USPN 6,107,203).

Vanell discloses a flow control system for a CMP process having a diaphragm pump (53) with inlet and outlet check valves (52,54) and a tool (55,57,58), the examiner notes that tool is a broad term).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 8, 9 and 12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bailey et al.

Bailey et al disclose the invention substantially as claimed as set forth in the above rejection. Bailey et al do not however disclose the plunger, diaphragm or bladder made of PFA. The examiner gives official notice that plungers and bladders made of PFA are well known. At the time of the invention it would have been obvious to one of ordinary skill in the art to make the displacement member of PFA as a well known and relatively cheap and durable displacement member material.

Claims 14 and 16-19 and 22-27 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bailey et al in view of Benson.

As set forth above Bailey et al disclose the invention substantially as claimed but do not disclose the working fluid reservoir surrounding the process fluid reservoir, separate inlet and outlet valves, a disposable bag or an ultrasonic mixer. Benson, as also set forth above, discloses a similar flow control system having a disposable bag for

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a process reservoir having separate inlet and outlet valves (67,68) and a working fluid reservoir which surrounds a process fluid reservoir. At the time of the invention it would have been obvious to one of ordinary skill in the art to substitute a bag and valve arrangement such as disclosed by Benson for the diaphragm member (111) of Bailey et al as an equivalent displacement member which will allow for greater displacement volumes. Additionally, the examiner gives official notice that ultrasonic mixers are well known. At the time of the invention it would have been obvious to one of ordinary skill in the art to use an ultrasonic mixer in order to insure that a homogeneous fluid is delivered to the CMP process.

Claim 15 is rejected under 35 U.S.C. 103(a) as being unpatentable over Bailey et al in view of Benson as applied to claim 14 above, and further in view of Snodgrass et al.

As set forth above Bailey et al in view of Benson discloses the invention substantially as claimed but does not disclose a pump delivering and removing fluid from the working reservoir. Snodgrass et al discloses a similar positive displacement pump having a pump (105) delivering and removing fluid from a working reservoir. At the time of the invention it would have been obvious to one of ordinary skill in the art to use a reciprocating pump such as shown in Snodgrass et al as the oscillating pressure source for providing and removing working fluid to a port such as port 61 in Benson. An arrangement such as Snodgrass et al provides a separately connected and simply maintained fluid drive pump.

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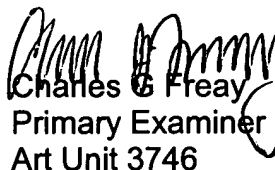
Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Li et al and Vanell et al disclose CMP systems.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Charles G. Freay whose telephone number is 571-272-4827. The examiner can normally be reached on Monday through Friday 8:30 A.M. to 5:30 P.M..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Timothy Thorpe can be reached on 571-272-4444. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


Charles G. Freay
Primary Examiner
Art Unit 3746

CGF
April